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**BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES**

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GROUP 1700

Application Number: 10/797,223
Filing Date: March 10, 2004
Appellant(s): ADAMS, NICHOLAS JAMES

Charles W. Stewart and Leonard P. Miller
For Appellant

EXAMINER'S ANSWER

This is in response to the appeal brief filed 09/20/2007 appealing from the Office action mailed 07/16/2007.

(1) Real Party in Interest

A statement identifying by name the real party in interest is contained in the brief.

(2) Related Appeals and Interferences

The examiner is not aware of any related appeals, interferences, or judicial proceedings which will directly affect or be directly affected by or have a bearing on the Board's decision in the pending appeal.

(3) Status of Claims

The statement of the status of claims contained in the brief is correct.

(4) Status of Amendments After Final

No amendment after final has been filed.

(5) Summary of Claimed Subject Matter

The summary of claimed subject matter contained in the brief is correct.

(6) Grounds of Rejection to be Reviewed on Appeal

The appellant's statement of the grounds of rejection to be reviewed on appeal is correct.

(7) Claims Appendix

The copy of the appealed claims contained in the Appendix to the brief is correct.

(8) Evidence Relied Upon

WO 00/29511 Van Ballegoy et al 25.05.2000

Molecular Transport and Reaction in Zeolites, John Wiley, Chen et al 1994

(9) Grounds of Rejection

The following ground(s) of rejection are applicable to the appealed claims:

1. Claims 1-9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Van Ballegoy et al (WO 00/29511) in view of Chen et al (Molecular Transport and Reaction in Zeolites, Table 2.1, page 11, John Wiley and Sons, 1994).

2. With respect to claim 1, Ballegoy invention discloses a process for the catalytic dewaxing. Ballegoy discloses, "The invention relates to a process for the catalytic dewaxing of a hydrocarbon feed comprising waxy molecules by contacting the hydrocarbon feed under catalytic dewaxing conditions with a catalyst composition comprising metallosilicate crystallites, a binder, and a hydrogenation component." (Page 1, lines 1-6). "The most preferred binder is silica." (Page 6, lines 12-13). Ballegoy also discloses that the hydrogenation component is platinum in a range of 0.1 to 5% by weight (See page 6, lines 14-34). Ballegoy discloses that the weight ratio of the metallosilicate crystallites and the binder is between 5:95 and 35:65 (See page 5, lines 20-21). Ballegoy further adds, "More preferably the zeolite crystallites have a constraint index of between 2 and 12." (Page 8, lines 3-4). Ballegoy also discloses, "The cut point(s) of the distillate fractions is/are selected such that each product distillate recovered has the desired properties for its envisaged application. For lubricating base oils, the cut point will normally be a least 280°C and will normally not exceed 400°C, the exact cut point being determined by the desired product properties, such as volatility, viscosity, viscosity index, and pour point." (Page 17, lines 14-21).

Ballegoy invention uses MTW-type crystallites like ZSM-12 (See page 7, lines 25-28) but does not specifically mention about having pores consisting of 12 oxygen atoms.

Ballegoy invention does not specifically mention that the gas oil yield is higher than the lower boiling fraction.

Chen reference discloses in Table 2.1 that MTW crystallites have channel size 12. Since Ballegoy and Chen both use MTW, and also, Chen discloses that MTW has channel size 12, MTW disclosed by Ballegoy will also inherently have channel size 12.

Since Ballegoy invention discloses that the exact cut point of the distillates is determined by the desired product properties and the lubricating base oil has a boiling range of 280°C to 400°C and also since Ballegoy invention uses a feed with a boiling range of 202 to 587°C (Page 28, Table IX), it would have been obvious to one skilled in the art at the time the invention was made to modify Ballegoy invention and cut a lubricating base oil and a larger portion of gas oil as compared to the lighter fraction because gas oil is a more value-added product as compared to the lighter components.

3. With respect to claims 2 and 3, Ballegoy invention discloses, "The feed oil will suitably contain between about 1% and up to 100% of these waxy compounds." (Page 3, lines 4-5).

4. With respect to claim 4, Ballegoy invention discloses, "Examples of feeds having relatively high amounts of waxy compounds are ....and slack waxes." (Page 3, lines 27-32).

5. With respect to claim 5, Ballegoy invention discloses in Table I (Page 18) nitrogen content of hydrocracked waxy raffinate feed to be less than 1 ppmw.

6. With respect to claims 6 and 7, Ballegoy invention discloses, "More preferably the zeolite crystallites have a constraint index of between 2 and 12." (Page 8, lines 3-4).

7. With respect to claim 8, Ballegoy invention discloses, "A further preferred class of aluminosilicate zeolite crystallites are of the MTW-type." (Page 7, lines 25-26).

8. With respect to claim 9, Ballegoy invention discloses, "The weight ratio of the metallosilicate crystallites and the binder is between 5:95 and 35:65." (Page 2, lines 2-3).

(10) Response to Argument

In the argument on page 4, paragraph 5, the Appellants argue that there is no disclosure in Van Ballegoy relating to the use of these catalysts to obtain a gas oil

product in addition to obtaining a lubricating base oil product. In fact there is no mention of gas oils anywhere in the Van Ballegoy et al reference.

The Appellant's argument is not persuasive because Van Ballegoy discloses, "The effluent from the catalytic dewaxing process or optionally the effluent of a hydrofinishing treatment applied subsequently is separated into a gaseous fraction and a liquid fraction. The cut point(s) of the distillate fraction(s) is/are selected such that each product distillate recovered has the desired properties for its envisaged application. For lubricating base oils, the cut point will normally be at least 280°C and will normally not exceed 400°C." (Page 17, lines 6-21). Clearly, Van Ballegoy produces lubricating base oils, and in addition, other fractions including gas oil.

In the argument on page 4, paragraph 6, the Appellants argue that Chen et al, the secondary reference, contains a table showing various available zeolite structures including many of the zeolites disclosed in Van Ballegoy et al. However, Chen et al, like Van Ballegoy et al, makes no mention of gas oils, and does not disclose which of the numerous zeolite structures listed could be used to make gas oils as well as lubricating base oils in high yields.

The Appellant's argument is not persuasive because Chen reference has been used only to show that MTW has channel size 12, not explicitly disclosed by Van Ballegoy.

In the argument on page 4, paragraph 7, the Appellants argue that the Examiner acknowledges that the "Ballegoy invention does not specifically mention that the gas oil yield is higher than the lower boiling fraction." In fact, as discussed above, Van Ballegoy et al does not mention gas oil at all, or that a gas oil yield is desired. In each of the examples of Van Ballegoy et al where product was obtained, the product obtained is described as a lubricating base oil product.

The Appellant's argument is not persuasive because although Ballegoy invention produces lubricating base oils, the invention also produces other fractions, including gas oil, as discussed before.

In the argument on page 4, last paragraph, the Appellants argue that a key feature of Appellant's invention is the use of a catalyst containing a zeolite having 12 oxygen-ring defined pores, such as ZSM-12, to produce a gas oil product in a yield higher than the yield of the fraction boiling below the gas oil product.

The Appellant's argument is not persuasive because Ballegoy is also using a zeolite having 12 oxygen-ring defined pores such as ZSM-12 (See page 19, lines 6-14). Ballegoy also produces different products and the cut point(s) of the distillate fraction(s) is/are selected such that each product distillate recovered has the desired properties for its envisaged application (See page 17, lines 6-21). Thus, Ballegoy process also produces other gaseous and liquid fractions, including gas oil. One skilled in the art will prefer to increase the gas oil yield as compared to the lighter components because gas

oil is a more value-added product as compared to the lighter components (See Office action: page 4, paragraph 2).

In the argument on page 5, paragraph 1, the Appellants argue that the Examiner points out that the "Ballegoy invention uses MTW-type crystallites like ZSM-12", which is correct. However, ZSM-12 is only one of many zeolite catalysts disclosed in Ballegoy et al. Moreover, the "Ballegoy invention" is directed to producing a lubricating oil product in a high yield. Ballegoy et al is not at all concerned with producing a gas oil product.

The Appellant's argument is not persuasive because Ballegoy produces lubricating oil and also other fractions, including gas oil (See page 17, lines 6-17). Ballegoy presents in Examples 11 and 12 (See Table VIII, page 28 and Table X, page 29) the results of hydrodewaxing of two different feedstocks. Tables VIII and X show lubricating base oil yield of 58.62 wt% and 48.1 wt% respectively. The tables do not show the gas oil yield. But Ballegoy discloses that other gas and liquid products are produced as discussed above. Thus, one skilled in the art will give gas oil yield also along with lubricating base oil. It is to be noted that the Appellant's Table 2 (Specifications: Table 2, page 13) shows major production (62.8 wt%) of lubricating base oil and minor production (20.9 wt%) of gas oil.

In the argument on page 5, last paragraph, the Appellants argue that the Applicant has found that MTW-type zeolites having 12 oxygen-ring defined pores are unexpectedly more effective than MTT-type zeolites in producing a gas oil product and

a lubricating oil product. As shown in Table 2, page 13 of the present application, the MTW-type zeolite produces 20.9 wt% gas oil plus 62.8 wt % lubricating base oil, while the MTT-type zeolite produces only 8.8 wt% gas oil and 51.3 wt% lubricating base oil. This finding of a superior yield of gas oil with MTW-type catalysts is not at all obvious from Ballegoy et al, which is not concerned with producing a gas oil product.

The Appellant's argument is not persuasive because Ballegoy discloses, "A further preferred class of aluminosilicate zeolite crystallites are of the MTW-type, like ZSM-12" (Page 7, lines 25-26). Ballegoy uses this catalyst in three preferred embodiments (See Examples 2a, 2b, and 2c, page 19, lines 6-22). The lubricating base oil yield is shown in Table II (Page 20). Although gas oil yield is not specifically disclosed, one skilled in the art will also specify gas oil because it is also being produced as per Ballegoy (See page 17, lines 6-17).

In the argument on page 6, the Appellants argue that since the stated purpose of the catalytic dewaxmg process in Ballegoy et al is to obtain lubricating base oil products in high yields, and since the product obtained in each of the examples in Ballegoy et al is a lubricating base oil product, the above cited disclosure concerning selecting cut points to recover products having desired product properties, clearly refers to desired lubricating base oil products. There is no indication in Ballegoy et al that a gas oil product is ever produced. If a gas oil product is not produced, one cannot select a cut point to isolate and recover a gas oil product. Thus, the above cited disclosure does not

teach or suggest producing a gas oil product with a yield which is larger than the fraction boiling below the gas oil fraction.

The Appellant's argument is not persuasive because Van Ballegoy discloses, "The effluent from the catalytic dewaxing process or optionally the effluent of a hydrofinishing treatment applied subsequently is separated into a gaseous fraction and a liquid fraction. The cut point(s) of the distillate fraction(s) is/are selected such that each product distillate recovered has the desired properties for its envisaged application. For lubricating base oils, the cut point will normally be at least 280°C and will normally not exceed 400°C." (Page 17, lines 6-21). Clearly, Van Ballegoy is producing not only lubricating base oils but also other fractions, including gas oil. Since Ballegoy is using similar feed, similar catalyst, and similar operating conditions in the process, it is expected that Ballegoy is also producing more gas oil than the fraction boiling below the gas oil fraction, as claimed by the Appellants.

In the argument on page 7, paragraph 1, the Appellants argue that in Example 12 of Ballegoy et al it is stated that the "Gaseous components were separated from the effluent by vacuum flashing at a cutting temperature of 390°C" (Underlining added). Since, as recognized by the Examiner, Ballegoy teaches that a cut point of 280°C to 400°C produces lubricating base oils, it is clear the product produced at a cutting temperature of 390°C in Example 12 is a lubricating base oil product. There is no gas oil produced in this example or lighter fraction other than the 1.1 wt % gas make.

The Appellant's argument is not persuasive because Table X (Page 29) presents the results of Example 12. The table shows lubricating base oil yield of 48.1 wt% and gas 1.1 wt% (total being 49.2 wt%). One skilled in the art will simply ask, where is the balance (50.8 wt%)? Clearly, Ballegoy is producing 50.8 wt% of other fractions, including gas oil.

(11) Related Proceeding(s) Appendix

No decision rendered by a court or the Board is identified by the examiner in the Related Appeals and Interferences section of this examiner's answer.

For the above reasons, it is believed that the rejections should be sustained.

Respectfully submitted,

Assistant Examiner Prem C. Singh

AU 1797

Conferees:

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